

In The Claims:**Claims 1-3. (canceled)**

Claim 4. (original) A refrigerant cycling device, wherein a compressor, a gas cooler, a throttling means and an evaporator are connected in serial in which a hyper critical pressure is generated at a high pressure side, and the compressor comprises an electric motor element, a first and a second rotary compression elements in a sealed container wherein the first and the second rotary compression elements are driven by the electric motor element, and wherein a refrigerant compressed and discharged by the first rotary compression element is compressed by absorbing into the second rotary compression element, and is discharged to the gas cooler, the refrigerant cycling device comprising:

an intermediate cooling loop for radiating heat of the refrigerant discharged from the first rotary compression element by using the gas cooler;

an oil separating means for separating oil from the refrigerant compressed by the second rotary compression element;

an oil return loop for depressurizing the oil separated by the oil separating means and then returning the oil back to the compressor;

a first internal heat exchanger, for exchanging heat between the refrigerant coming out of the gas cooler from the second rotary compression element and the refrigerant coming out of the evaporator;

a second internal heat exchanger for exchanging heat between the oil flowing in the oil return loop and the refrigerant coming out of the first internal heat exchanger form the evaporator; and

an injection loop, for injecting a portion of the refrigerant flowing between the first and the second throttling means into an absorption side of the second rotary compression element of the compressor.

Claim 5. (original) The refrigerant cycling device of claim 4, further comprising a gas-liquid separating means disposed between the first throttling means and the second throttling means, wherein the injection loop depressurizes a liquid refrigerant separated by the gas-liquid separating means, and then injects the liquid refrigerant into the absorption side of the second rotary compression element of the compressor.

Claim 6. (original) The refrigerant cycling device of claim 4, wherein after the oil separated by the oil separating means exchanges heat at the second internal heat exchanger with the refrigerant coming out of the first internal heat exchanger from the evaporator, the oil return loop returns the oil back to the sealed container of the compressor.

Claim 7. (canceled)

Claim 8. (original) The refrigerant cycling device of claim 4, wherein the refrigerant uses a refrigerant selected from any one of carbon dioxide, R23 or HFC refrigerant and nitrous suboxide.

Claim 9. (original) The refrigerant cycling device of claim 4, wherein an evaporation temperature of the refrigerant at the evaporator is equal to or less than -50°C.

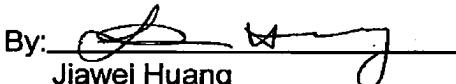
Claim 10-26. (canceled)

No new matter has been added to the application by the amendments made to the claims.

Respectfully submitted,
J.C. PATENTS

Dated: 9/24/2004

Correspondence Address:
4 Venture, Suite 250
Irvine, CA. 92618
Tel.: (949) 660-0761

By: 
Jiawei Huang
Registration No. 43,330